CLAIMS

What is claimed is:

1. A recombinant expression vector comprising a nucleotide sequence encoding the polypeptide set forth in SEQ ID NO:5.

2. The recombinant expression vector of Claim 1, wherein said nucleotide sequence is the nucleotide sequence set forth in SEQ ID NO:4.

3. The recombinant expression vector of Claim 1, wherein said vector further comprises a replication-defective virus.

4. A host cell comprising the recombinant expression vector of Claim 1, wherein said host cell is selected from the group consisting of prokaryotic host cells and eukaryotic host cells.

5. An antibody directed against at least a portion of the amino acid sequence of SEQ ID NO:5, wherein said antibody is selected from the group consisting of monoclonal antibodies and polyclonal antibodies.

6. A method for detecting nucleic acids encoding Rig in a sample, comprising the steps of:

a) providing:

i) a sample encoding Rig,

ii) a probe comprising nucleic acid having complementarity to at least a portion of the nucleotide sequence of SEQ ID NO:4,

b) combining said sample and said probe under conditions wherein a hybridization complex is formed between said probe and said nucleic acid in said sample, and

c) detecting said hybridization complex.

7. The method of Claim 6, wherein said sample is selected from the group consisting of total cellular RNA, polyA RNA and genomic DNA.

8. The method of Claim 6, wherein said sample comprises tumor tissue.

9. The method of Claim 6, wherein said sample is from a human subject.

10. The method of Claim 6, wherein said method comprises a Northern blotting protocol.

11. A method for amplifying nucleic acids encoding Rig in a sample, comprising:

a) providing:

i) a sample comprising nucleic acids encoding Rig,

ii) a DNA polymerase;

iii) two oligonucleotides having complementarity to the nucleotide sequence of SEQ ID NO:4; and

iv) PCR amplification reagents;

b) combining said sample, said DNA polymerase, said oligonucleotides, and said PCR amplification reagents,

c) annealing said oligonucleotides to said nucleic acid in said sample;

d) extending said oligonucleotides with reiterated DNA synthesis under conditions such that said nucleic acid is amplified to produce an amplified product; and

e) detecting said amplified product.

12. The method of Claim 11, wherein said DNA polymerase has both DNA-dependent DNA polymerase activity and reverse transcriptase RNA-dependent DNA polymerase activity.

13. The method of Claim 11, wherein said sample is from a human subject.

14. The method of Claim 11, wherein said sample comprises tumor tissue.

15. The method of Claim 11, wherein said nucleic acid is selected from DNA and RNA.

16. The method of Claim 11, wherein said two oligonucleotides comprise SEQ ID NO:2 and SEQ ID NO:3.

17. A method for detecting Rig polypeptide in a sample, comprising:

a) providing:

i) a sample comprising Rig, and

ii) an antibody of Claim 5;

b) contacting said sample with said antibody under conditions such that said antibody specifically binds to said polypeptide in said sample to form an antigen-antibody complex; and

c) detecting said polypeptide-antibody complex.

18. The method of Claim 17, wherein said sample comprises tumor tissue.

19. The method of Claim 17, wherein said sample is from a human subject.

20. The method of Claim 17, wherein said method is selected from the group consisting of Western blotting, enzyme linked immunosorbent assays, immunofluorescence assays, radioimmuno assays, and immunohistochemistry.

21. A method for inhibiting cell growth, comprising the steps of:

a) providing:

i) a cell,

ii) the recombinant expression vector of Claim 1, and

iii) a means for delivery of said recombinant expression vector into said cell;

b) delivering said recombinant expression vector into said cell using said means for delivery, and

c) expressing said polypeptide within said cell.

22. The method of Claim 21, wherein said cell is a human cell.

23. The method of Claim 22, wherein said human cell is within a human subject.

24. The method of Claim 21, wherein said cell is a tumor cell.

25. The method of Claim 24, wherein said tumor cell is of neural origin, and wherein said tumor cell of neural origin is selected from the group consisting of astrocytoma cells, glioblastoma cells, human Ewing sarcoma cells, primitive neuroectodermal tumor cells, rhabdomyosarcoma cells, undifferentiated carcinoma cells, and neuroblastoma cells.

26. The method of Claim 21, wherein said means of delivery is selected from the group consisting of direct nucleic acid administration, liposomes, a recombinant virus, and any combination thereof.

27. The method of Claim 26, wherein said recombinant virus comprises operably linked recombinant nucleotide sequences comprising a suitable promoter sequence and viral sequences, wherein said viral sequences are selected from the group consisting of adenovirus sequences, adeno-associated virus sequences, retrovirus sequences, herpes virus sequences, vaccinia virus sequences and Moloney virus sequences.

28. The method of Claim 26, wherein said means of delivery is selected from local delivery and systemic delivery, and wherein local delivery is selected from the group comprising surgical delivery, implantation, and injection.